

ABSTRACT OF THE DISCLOSURE

This power module substrate (1) is provided for satisfying both long life with respect to heat cycle and satisfactory thermal conductivity. The power module substrate is provided with an insulating substrate (2) a circuitry layer (3) laminated on one side of insulating substrate, a metal layer (4) laminated on the other side of insulating substrate, a semiconductor chip (5) loaded onto circuitry layer by means of solder (7), and a radiator (6) joined to metal layer. Circuit layer and metal layer are composed of copper of at least 99.999% purity. Temperature cycling life can be extended since there is no accumulation of internal stress even when subjected to repeated heat cycle. In addition, since circuitry layer and metal layer are composed of copper having satisfactory thermal conductivity, heat from semiconductor chip can be efficiently released by transferring to the side of radiator.